MEMORANDUM

To: Board of Regents

From: Board Office

Subject: Naming of a New Center - the Information Assurance Center,
Iowa State University

Date: November 6, 2000

Recommended Action:

Approve the request for a new ISU Center to be named the Information Assurance Center.

Executive Summary:

Iowa State University is requesting a new center to be named the Information Assurance Center. The Information Assurance Center will be an interdisciplinary center, drawing faculty from both technology-based disciplines and from the liberal arts and sciences. The goal of this proposed center will be to move ISU to national prominence by enhancing education and research in computer security. The mission of the Center is to "strive to become the preeminent academic leader in information assurance through national collaborative efforts in computer security education and research."

The new center was reviewed by the Interinstitutional Committee on Educational Coordination and the Board Office and is recommended for approval.

Information security has become a critical concern of both government and industry. According to the President's 1998 Commission on Critical Infrastructure report, computer security is of prime importance to protecting the national communication infrastructure, and the report recommends increasing the education efforts in computer security. Iowa State University, through the existing Information Systems Security Laboratory and the proposed Information Assurance Center, is poised to assume a leadership role in this area.

The response to the Regent questions for approval of new centers is attached.

The appropriate administrators at Iowa State University have endorsed this action.

Robert J. Barak

Approved: _____
Frank J. Stork

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Board of Regents review questions for the creation of a center

1. **What is the title of the proposed center or institute?**

   Information Assurance Center

2. **What is the administrative relationship of the proposed unit to entities on campus, such as departments or colleges?**

   This is a university-wide center

3. **To whom will the administrative director of the unit report?**

   The director of the center will report jointly to the Vice Provost for Undergraduate Programs and the Vice Provost for Research.

4. **Succinctly describe the basic purposes and objectives of the unit.**

   The mission of the center is " The Iowa State University Information Assurance Center strives to become the preeminent academic leader in Information Assurance through national collaborative efforts in computer security education and research. Through its efforts, the center strives to help address the national concern for producing more Information Assurance professionals and for advancing the state of the art."

   Information security has become a critical concern of both government and industry, and numerous groups have independently called for more and better research and education efforts in computer security. During the first computer security education workshop (1997), sponsored by the National Security Agency and attended by industry and government agencies, there was a clear call to action for universities to create programs in information security. According to the President's 1998 Commission on Critical Infrastructure report, computer security is of prime importance to protecting the national communication infrastructure, and the report recommends increasing the education efforts in computer security. Additionally, the computer and communication research community has voiced strong support for new efforts in education and research in Information Systems Security as noted in the last two NSF Arlie House workshop reports. The security group at ISU has received many inquiries from private and public sources asking for information and help with understanding and dealing with these issues.

   The growing need for computer security professionals is well documented, yet very few universities offer more than a single cryptography course, and even fewer engineering departments have a presence in this area. The end result is a severe shortage of graduates proficient in networks and security. Furthermore, because computer programs are not prevalent at U.S. universities, a need now exists to attract Ph.D. students who desire to stay in academia and build their own research and education programs.

   In response to these demands faculty in Computer Engineering, Math, and Computer Science created the Information Systems Security Laboratory (ISSL) as a structure to provide a focal point for research and teaching in computer security. Under the umbrella of the ISSL, Drs. Davis and Jacobson attracted several other faculty members to work in the area and to provide additional courses in computer security. Through the leadership of Drs. Davis & Jacobson, the ISSL has grown into a national leader in computer security education

and has one of the largest programs with eight courses. These achievements led to the designation of the ISSL as a Center of Excellence in Information Assurance (COE) by the National Security Agency, giving ISU one of only seven centers of excellence in the country. The goal of the NSA COE initiative is "to reduce vulnerability in our National Information Infrastructure by promoting higher education in information assurance, and producing a growing number of professionals with IA expertise in various disciplines."

Iowa State University is in a leadership role in computer security education because of the ISSL, and the creation of the ISU Information Assurance Center will enable Iowa State University move to national prominence in enhancing education and research in computer security. The Center will address this national need by developing security-oriented instructional materials that can be used by both security and non-security professionals and by engaging in research in computer security.

The center will be interdisciplinary, drawing faculty from both technology-based disciplines and from the liberal arts and sciences. Many of the security problems and solutions have social implications that require experience from political science, sociology, history, law, and business and rhetoric and professional communication. By bringing faculty members from these disciplines together, ISU will be able to respond to the needs of students and the priorities of funding agencies.

5. **How will the activities of the unit relate to the general mission and teaching programs of the university**

   The center fits into the land grant mission of Iowa State University. The center's focus on teaching, research, and outreach fits the new Iowa State strategic plan.

6. **Do similar units exist at other public or private colleges or universities in Iowa? If so how does the proposed unit relate to them?**

   No

7. **What are the proposed sources and annual amounts of funding for the unit?**

   The attached list details the projects, sponsors, principal investigators, and level of external funding of each.

   2000-2001 Project Budget

ISU grants	$ 17,500
Federal Government	$1,116,771
ISU funding	$50,000
Total	1,184,271

8. **Which of the costs in item 7 represent new financial obligations to the general fund of the university?**

   None

Current Funding:

Davis and Jacobson. Detection of and Countermeasures for Network Denial of Service Attacks, DoD University Research Program, 8/15/98 - 12/31/00, $195,000

Wong, Honavar, and L. Miller. Intelligent Multi-Agents for Intrusion Detection and Countermeasures, DoD University Research Program, 8/1/98 - 12/31/00. $199,769

Davis, J.A., Jacobson, D.W., Russell, S, Bergman, C., Wong, J. "Integrated Security Curricula Modules", Total $467,000, NSF, $325,000, ISU match $162,000 8/1/99-7/31/02

Jacobson, D.W., Davis, J.A., Lawson, K., Covert, G., Miller Fellowship "A web-based Information Assurance Awareness Delivery System", July 2000 - June 2001, $17,500

J.A. Dickerson, NSF POWRE Program, "Adaptive Fuzzy Intrusion Detection with Cooperative Agents," $75,000, September 2000-December 2001.

Ryan, S., Egbelu, P., Gemmill, D., Min, J., Qamhiyah, A., Jacobson, D., "An enabling system for market driven product design and recycling", Aug 2000-July 2001, NSF, $180,002.

Submitted:

Jacobson, D.W., Davis, J.A., Dickerson, J.A., "Information Assurance Center", Submitted to NSF STC program, 5 year project. $10,591,157

Jacobson, D.W., Davis, J.A., Dickerson, J.A., Bergman, C., Jackman, J.K., "Interdepartmental PhD. Degree in Information Assurance", Submitted to NSF IGERT program, 5 year project. $1,888,566

Jacobson, D.W., Davis, J.A., "A fault tolerant multilevel highly survivable network", Air Force office of Scientific Research, 3 year project $2,320,000

Jacobson, D.W., Davis, J.A., "VizAR A Dynamic Visualization Security Management Tool", Air Force office of Scientific Research, 3 year project $2,620,000

J.A. Dickerson, D. Cook, J.E. Dickerson, "Network Intrusion Characterization and Detection using Adaptive Fuzzy Cooperative Agents and Visual Data mining Methods," Army Research Office, $825,000 over three years.

Wong, J., Mult-Agent Intrusion Detection System (MAIDS), submitted to NSF, Principal Investigator, Amount Requested: $497,365.

Wong, J., Distributed Information Networks for Information Fusion and Knowledge Acquisition from Heterogeneous Distributed Dynamic Data Sources, submitted to NSF, Amount Requested: $497,365.